

# Analyzing the effects of actions followed by the Central Bank of Jordan during COVID-19 pandemic on financial performance of Jordanian banks

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## Abstract

**Purpose** – This study analyzes the impact of the procedures followed by the Central Bank of Jordan during the COVID-19 pandemic on the financial performance of Jordanian banks listed on the Amman Stock Exchange over the period (2019Q1–2021Q3).

**Design/methodology/approach** – The panel fixed effect model was used to measure the impact of each of the required reserve ratios and the deferred loans on the profitability of Jordanian banks represented by the return on total assets.

**Findings** – The results revealed a negative relationship at the significance level of 10% between the required reserve ratio and the return on total assets. Also, there is a negative relationship at the significance level of 5% between the deferred loans and the return on total assets.

**Research limitations/implications** – The paper recommends the Central Bank of Jordan following a precautionary policy to encounter systematic risks that cannot be eliminated by using diversification.

**Originality/value** – With the severe impact of the Coronavirus pandemic on the overall economic performance of the national economic sectors and the subsequent negative impact on the living standard of society's members, this study shows the government's role represented by the procedures of its monetary authority (Central Bank of Jordan) to mitigate the effects of this pandemic, as well as measuring the impact of these procedures on the financial performance of Jordanian banks listed on the Amman Stock Exchange.

**Keywords** Central bank of Jordan, Covid-19 pandemic, Financial performance, Panel data

**Paper type** Research paper

## 1. Introduction

Since the emergence of the Coronavirus, (COVID-19) (late 2019 and early 2020), the world has been living in a state of fear and instability, which led to the emergence of various crises at all levels, most notably the emergence of a global economic crisis that included all developed and developing countries in a way that caused turmoil and shocks that affected various sectors. The economic crisis led to billions of dollars in losses all over the world, and this crisis was



different from the crises the world witnessed previously, such as the oil shocks in the seventies, the tsunami of Thailand, the earthquake of Japan in 2011 and the Global financial crisis in 2008. The global public debt (as a percentage of gross domestic product (GDP)) increased by 18.7% compared to the 10.5% in the 2008 global financial crisis ([International Monetary Fund, 2022](#)). Moreover, the global fiscal deficit increased by 10% of GDP compared to 4.9% in the 2008 global financial crisis. As all of these previous shocks and crises had a specific geographical scope as well as a specific time frame, recent crisis that we are still experiencing, the Coronavirus, has proven that it is an uncontrollable crisis, geographically, that has prevailed throughout the world and over time you do not find anyone who can predict a clear time frame that is likely to end through this epidemic, like other crises the world has witnessed.

Perhaps the most eloquent and strongest economic challenge that resulted from this crisis was the monetary challenge and the need to provide the necessary liquidity to maintain the continuity of providing the basic requirements of life, and the continuity of economic activity in the basic sectors. In addition, the continuation of the financial performance of commercial banks is one of the most important economic sectors with a significant and clear impact on the economic activity of any society and country. Hence, this study analyzes the impact of the actions of the Central Bank of Jordan as a representative of the monetary authority during the Corona pandemic (COVID-19) crisis on the financial performance of Jordanian banks listed on the Amman Stock Exchange.

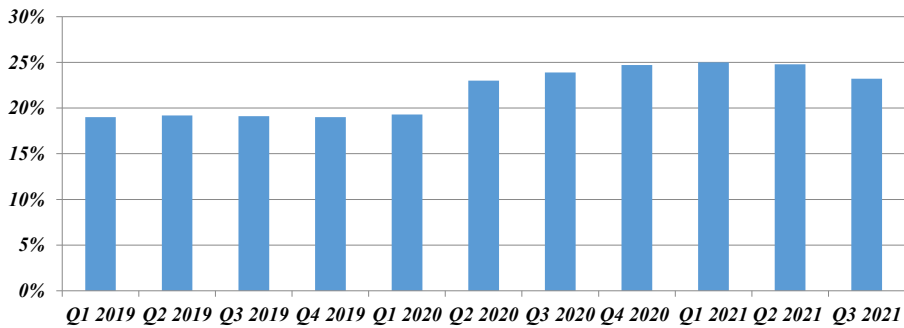
With the severe impact of the Corona pandemic on the overall economic performance of the national economic sectors and the subsequent negative impact on the living standard of society's members, this study shows the government's role represented by the procedures of its monetary authority (Central Bank of Jordan) to mitigate the effects of this pandemic, as well as measuring the impact of these procedures on the financial performance of Jordanian banks listed on the Amman Stock Exchange. The rest of this paper is classified into four sections. [Section 2](#) presents the impact of the COVID-19 pandemic on the Jordanian economy and banking sector. [Section 3](#) deliberates the review of the literature. [Section 4](#) discusses data and methodology. [Section 5](#) provides an analysis of results, while the last section concludes the research paper.

## **2. The impact of the COVID-19 pandemic on the Jordanian economy and banking sector**

The great impact that this pandemic (i.e. Coronavirus) has had on the economies of the world, of which Jordan is a part and like other countries, there were clear features of this crisis on the performance of its economic sectors. The hotel and restaurant sector recorded the highest decline during the third quarter of 2020 by 9.1%, the transport, storage and communications sectors decreased by 6.3%, the social and personal services sector decreased by 4.5%, the construction sector decreased by 4.1% and the industrial sector by 3.2%. In addition, the trade balance decreased during the first eleven months of the year 2020, by 5.2% compared to the same period in 2019, it amounted to 5069.8 million JD ([Central Bank of Jordan, 2022](#)).

[Figure 1](#) showed the relative stability of the unemployment rate during the period (2019Q1–2020Q1), while the unemployment rate increased significantly in 2020Q2 and continued to rise until 2021Q1. This rise is due to the outbreak of the Coronavirus economic pandemic that swept Jordan at the beginning of March 2020. At that time, the government worked to take procedures to mitigate the repercussions of the pandemic, by closing facilities and imposing a curfew, which in turn reduced the volume of sales and profits and decreased economic growth rates. As a result, these facilities were forced to reduce the number of employees to face the repercussions of the pandemic, which raised unemployment rates.

**Figure 1.**  
The unemployment rate in Jordan over the period (2019Q1–2021Q3)

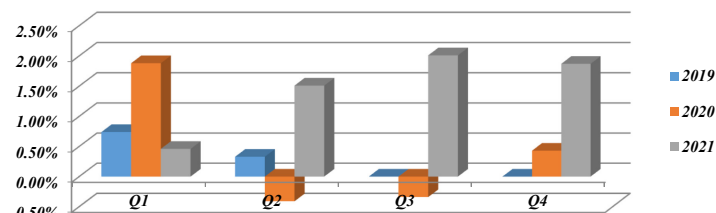


**Source(s):** Department of Statistics in Jordan, available online at: <http://dosweb.dos.gov.jo/>

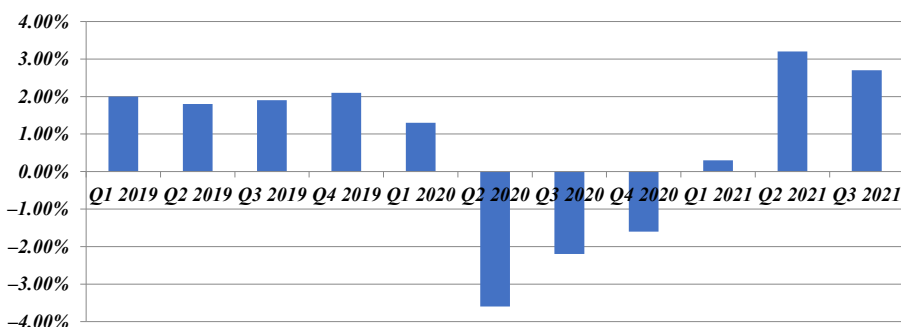
Figure 2 showed a decrease in inflation rates between 2019Q1 and 2019Q4, and this reflects the achievement of the economic goals through which the monetary and financial authority in Jordan seeks to achieve economic balance. The inflation rate increased in the first quarter of 2020, and suddenly decreased in the second and third quarters of 2020, and this decline is due to the fiscal and monetary policy that Jordan followed to face the burdens of the pandemic by postponing installments without delaying interest for all individuals and sectors, and the reduction of the mandatory required reserve ratio, which in turn helped raise the level of liquidity and revive the economic movement and purchasing power, and this is the focus of this study, whose indicators will be analyzed later, but inflation rates returned to rise between the fourth quarter of 2020 until the third quarter of 2021. Inflation rates decreased in the fourth quarter of 2021, and this reflects the occurrence of some movements of economic activity globally, and consequently the return of import and export operations to an acceptable level with which goods and products were available in the markets.

Figure 3 showed relative stability in the growth rates from the first quarter of 2019 to the fourth quarter of 2019, and this reflects the success in achieving economic goals and maintaining stable price levels and thus economic balance. Economic growth rates began to decline from the first quarter of 2020 until the fourth quarter of 2020, which is due to the conditions of the pandemic and the consequent restrictions and procedures for a comprehensive and partial closure of all economic activities, then these rates began to rise from the first quarter of 2021 to the third quarter of 2021, and this is due to the easing of procedures and gradually allowing import, export and the opening of foreign trade.

**Figure 2.**  
The inflation rate in Jordan over the period (2019Q1–2021Q4)



**Source(s):** Department of Statistics in Jordan, available online at: <http://dosweb.dos.gov.jo/>



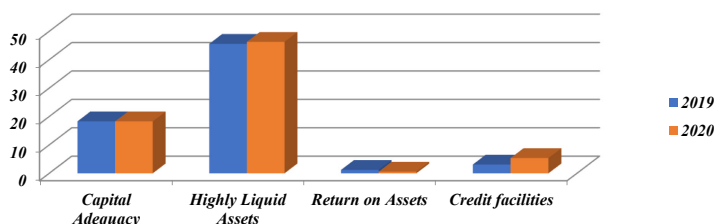
**Figure 3.**  
The economic growth  
rate in Jordan  
over the period  
(2019Q1–2021Q3)

**Source(s):** Department of Statistics in Jordan, available online at: <http://dosweb.dos.gov.jo/>

The banking sector is considered one of the most important sectors influencing the economic activity of all countries, including Jordan, and its important role in achieving monetary stability as a basis for financial stability and thus economic stability. Figure 4 shows the impact of the Corona pandemic on the selected Jordanian banking sector indicators.

Figure 4 showed an increase in the value of highly liquid assets in 2020 compared to 2019, where the percentage of highly liquid assets amounted to 46.3% of the total assets in 2020 compared to 45.6% in 2019, as well as a decrease in the return on assets, which amounted to 1.2 % in 2019 and this percentage decreased in 2020 to 0.6% due to the banks raising debt allocations to face any potential losses as a result of the repercussions of the pandemic in the future. In addition to the need to face obligations to postpone loan installments without interest and delay commissions for sectors and clients in distress as a result of the repercussions of the Corona pandemic (COVID-19). Concerning credit facilities, it was found that there was an increase in the value of credit facilities in 2020 compared to 2019, as the percentage of credit facilities reached 3.1% at the end of 2019, while this percentage increased to 5.4% at the end of 2020, as a result of the Central Bank's decision to support small and medium enterprises affected by the pandemic by postponing loan installments (Financial Stability Report Central Bank of Jordan, 2020).

It is clear from the above figures that the Jordanian economy and the banking industry were greatly affected by the repercussions of the Corona pandemic, through the rise in unemployment and inflation rates, a decrease in economic growth rates, a decrease in the value of imports and exports and a decrease in the performance of the main sectors represented by finance, industry, agriculture, and services due to health measures such as quarantine, closure of facilities, curfews and suspension of foreign trade. In mid-March 2020,



**Figure 4.**  
Financial indicators of  
Jordanian banks in  
2019 and 2020

**Source(s):** Department of Statistics in Jordan, available online at: <http://dosweb.dos.gov.jo/>

the process of containing the Coronavirus began by taking many procedures that would mitigate the economic impact and seek to stabilize the conditions of economic institutions, especially small and medium enterprises. Jordan focused on providing liquidity by postponing the payment of sales tax and allowing sectors affected by the reduction of workers' wages and the activation of the "unemployment" program launched by the Social Security Corporation (Arab Monetary Fund, 2022). To stimulate liquidity and enable financing of economic institutions at a reduced cost of financing, and at the level of public finance, the Ministry of Finance announced the postponement of the collection of sales tax on all local sectors, the imposition of maximum limits on the prices of basic products, the postponement of 70% of the collection of customs duties due on some companies and the reduction of social security contributions due on the private sector (from 21.75% to 5.25%), the fines imposed on taxpayers for income and sales tax, and the installments of the amounts due from them and the economic institutions most affected by the crisis were also exempted (Arab Monetary Fund, 2022).

### 3. Review of literature

At the beginning of the year 2020, the world witnessed a great and unexpected shock after the Coronavirus invaded most of the countries of the world and stopped the economic movement that affected those countries. This crisis has affected many economic sectors, the most important of which is the banking sector. This section deliberates studies and research related to the COVID-19 pandemic and similar crises, to explain the impact of the Corona pandemic on financial performance in particular and the economies of countries in general.

Abodunrin, Oloye, and Adesola (2020) examined the extent of the damage caused by the outbreak of the Coronavirus epidemic on the global economic sectors, using the descriptive-analytical approach. The results showed a significant decline in the shares of companies and the activity of the economy, including the tourism sectors as a result of closure and quarantine. The study recommended the need to take all necessary procedures to reduce the repercussions of this pandemic. Açıkgöz and Günay (2020) examined the impact of the Corona pandemic on the economies of the world and the policies followed by those countries to reduce the impact of this pandemic. The results showed an important conclusion that this crisis had a significant impact on the countries of the world. China is mostly affected by this pandemic due to a significant increase in unemployment and inflation rates because it is the highest exporter of countries in the world. The Turkish economy was not spared from the effects of this pandemic, which also faced major problems (i.e. high rates of unemployment and inflation), thus the monetary authority in Turkey stimulated liquidity by reducing the proportion of legal reserves and buying bonds and securities. Bobade and Alex (2020) examined the impact of COVID-19 pandemic on the Indian banking sector. The results showed that the Indian banking sector suffered from loan non-recovery, bad loans, fraud by customers and the COVID-19 pandemic. Demircuc-Kunt, Pedraza, and Ruiz-Ortega (2021) assessed the impact of the financial policies on the performance of banks in the countries of the world in light of the Corona pandemic. Because of the damage to other economic sectors from a significant decline in stock prices, which led to the intervention of central banks through monetary policy, the focus was on reducing the interest rate to help in the process of credit expansion and the trend toward providing loans without interest and working to purchase securities and bonds. Kaddumi and Daoud (2021) investigated the impact of the COVID-19 pandemic on the Jordanian commercial banking sector. The results showed that the COVID-19 pandemic affected the Jordanian commercial banking sector negatively. Khatatbeh, Bani Hani, and Abu-Alfoul (2020) examined the impact of the Corona pandemic on the growth of the global economy and stock markets, and the role of monetary and financial policies in reducing the crisis effects. The results showed a decline in stock prices and

investment rates as a result of the Corona pandemic. The paper recommended the need to hedge against the recession that may occur in the future, and the optimal use of fiscal and monetary policies.

Ozili and Arun (2020) identified the most important sectors that were affected by the outbreak of the pandemic and its impact on the global economy. The financial sector in China was greatly affected by the high risk of loans, which reduced the profitability of banks, and led the central banks to reduce interest. Sansa (2020) investigated the impact of the Corona pandemic on the economy of the United States and China using the descriptive statistical approach. The results showed a decline in stock prices in the financial markets, which led to economic stagnation. However, the Central Banks in those countries worked to reduce interest rates to enhance the movement of liquidity.

#### 4. Data and methodology

This study examines the impact of the procedures of the Central Bank of Jordan during the Corona pandemic on the financial performance of Jordanian banks listed on the Amman Stock Exchange during the period (2019Q1–2021Q3). Data were collected from annual reports available from the Association of Banks in Jordan (<https://www.abj.org.jo>). The study population included all 15 Jordanian banks (commercial and Islamic) listed on the Amman Stock Exchange (see Table 1).

The previous studies used several variables to examine the relationship to be studied, and in this paper, the following model was used:

$$ROA_{it} = \beta_0 + \beta_1 RRR_{it} + \beta_2 DL_{it} + \beta_3 DU_{it} + \varepsilon_{it} \quad (1)$$

where ROA is the return on total assets as a measurement of financial performance, RRR is the required reserve ratio, DL is the deferred loans, DU is the dummy variable that measures COVID-19 crisis,  $i$  denotes the bank,  $t$  represents the year,  $\beta_0$  denotes the constant term,  $\beta_1$ ,  $\beta_2$  and  $\beta_3$  represent the coefficients of independent variables and  $\varepsilon$  denotes the error term.

Bank's name	Bank's short name	Listed shares
Jordan Islamic Bank	JOR Islamic Bank	200,000,000
Jordan Kuwait Bank	JOR Kuwait Bank	150,000,000
Jordan Commercial Bank	JCBANK	120,000,000
The Housing Bank for Trade and Finance	Housing BK TRD FIN	315,000,000
Arab Jordan Investment Bank	Arab JOR/INV/Bank	150,000,000
Safwa Islamic Bank	Safwa Islamic Bank	100,000,000
Bank Al Etihad	Bank Al Etihad	160,000,000
Arab Banking Corporation/(Jordan)	Arab Banking CO	110,000,000
Invest Bank	Invest Bank	100,000,000
Capital Bank of Jordan	Capital Bank	200,000,000
Societe General De Banque-Jordanie	Soggen BK – Jordanie	100,000,000
Cairo Amman Bank	Cairo Amman Bank	190,000,000
Bank of Jordan	Bank of Jordan	200,000,000
Jordan Ahli Bank	Jordan Ahli Bank	200,655,000
Arab Bank	Arab Bank	640,800,000

**Source(s):** Amman Stock Exchange – Jordan, available online at: <https://www.ase.com.jo/en/products-services/securties-types/shares>

**Table 1.**  
The listed banks in  
Amman stock  
exchange–Jordan

**5. Results analysis**

A descriptive statistical analysis of the data was carried out by calculating the mean, standard deviation and normal distribution of the variables, as shown in Table 2.

Table 2 showed the mean of the dependent variable, i.e. Return on assets (ROA) = 0.001971, the standard deviation = 0.001519, the lowest value = -0.001202 and the highest value = 0.009752. It is clear from the results of the Jarque–Bera test, that all the variables are normally distributed. However, it appears from the results in Table 3 that all the variables fall within the acceptable range of the correlation coefficient, which means that there is no problem with multiple linear correlations.

The results in Table 4 showed that all variables are stationary at the first difference (I (1)), thus the next step is to test co-integration among variables. In this study, the Kao residual co-integration test was used to examine the co-integration among variables, to ensure that the statistical relationship between all the variables of this study is constant and that there is co-integration in the long-term and short-term.

It appears from the results of the Kao residual co-integration test in Table 5 that the value of t-statistics is -5.621523, which is significant at the level of 1%, and this indicates that the statistical relationship is stable, and there is a co-integration in the long-term and short-term. To compare the panel data models including pooled ordinary least square (OLS) model and generalized least square models, the Breusch and Pagan Lagrange multiplier test was performed. The results of the Lagrange multiplier test in Table 6 show that the value of chi-square statistics = 4.54416 is significant at the level of 1%, and therefore it is optimal to use generalized least square models, which include the random effect model and the fixed effect

**Table 2.**  
Descriptive statistical analysis

Variable	Mean	Standard deviation	Minimum	Maximum	Jarque–Bera
ROA	0.001971	0.001519	-0.001202	0.009752	227.5002 <i>p</i> -value = 20.331
RRR	5.909091	0.998891	5.000000	7.000000	27.50764 <i>p</i> -value = 1.2345
DL	0.090909	0.288355	0.000000	1.000000	478.5688 <i>p</i> -value = 40.345

**Source(s):** EViews 13 software for statistical analysis

**Table 3.**  
Pearson correlation analysis

Variable	ROA	RRR	DL
ROA	1	0.1478	0.1318
RRR	0.1478	1	0.3464
DL	0.1318	0.3464	1

**Source(s):** EViews 13 software for statistical analysis

**Table 4.**  
Panel unit root test

Variables	I(0)	I(1)
ROA	-2.03456 (0.96)	-4.87965*** (0.00)
RRR	-2.13478 (0.14)	-5.67891*** (0.00)
DL	-5.34567*** (0.00)	-6.12234*** (0.00)

**Note(s):** (1) The unit root of the variables was tested using Im, Pesaran, and Shin (1997). (2) The numbers in parentheses indicate the probability value of the unit root test. (3) The symbol \*\*\* indicates the significance at the level of 1%

**Source(s):** EViews 13 software for statistical analysis

model. The Hausman Test (1978) was conducted to compare the random effect model and the fixed effect model as shown in Table 7.

The results of the Hausman test in Table 7 showed that the value of chi-square statistics = 16.52333 is significant at the level of 1%, and therefore it is optimal to use the fixed effect model.

It is clear from the results in Table 8 that the relationship between the required reserve ratio (RRR) and the return on total assets (ROA) has an inverse relationship at the significance level of 10%. In addition, the result between deferred loans (DL) and ROA has a negative

	<i>t</i> -statistics	Probability
ADF	-5.621523***	0.00

Series: ROA, RRR, DL  
Sample: 2019Q1–2021Q3  
Number of observations: 165

**Note(s):** (1) The co-integration between the study's variables was tested using Kao's (1999) test. (2) The symbol \*\*\* indicates the significance at the 1% level  
**Source(s):** EViews 13 software for statistical analysis

**Table 5.**  
Panel co-integration test

Chi-square statistics	Probability
4.54416***	0.00

Series: ROA, RRR, DL  
Sample: 2019Q1–2021Q3  
Number of observations: 165

**Note(s):** (1) The Lagrange multiplier was tested using the Breusch and Pagan (1980) test. (2) The symbol \*\*\* indicates the significance at the 1% level  
**Source(s):** EViews 13 software for statistical analysis

**Table 6.**  
The results of the Breusch and Pagan Lagrange multiplier test

Chi-square statistics	Probability
16.52333***	0.00

Series: ROA, RRR, DL  
Sample: 2019Q1–2021Q3  
Number of observations: 165

**Note(s):** The symbol \*\*\* indicates the significance at the 1% level  
**Source(s):** EViews 13 software for statistical analysis

**Table 7.**  
The results of the Hausman test

Variable	Coefficient	Std. Error	<i>t</i> -statistic	Probability
RRR	-0.06124*	0.03315	-1.84736	0.08012
DL	-0.03698**	0.02897	-1.27649	0.05000
DU	-0.02345**	0.01376	-1.70421	0.04991
<i>R</i> -squared	0.83			
<i>F</i> -statistics	8.2430			
Probability ( <i>F</i> -statistics)	0.0000			

**Note(s):** The symbols \*, \*\* denote significance at the 10% and 5% levels, respectively  
**Source(s):** EViews 13 software for statistical analysis

**Table 8.**  
Estimation of the parameters of the fixed effect model (ROA is a dependent variable)



relationship at the significance level of 5%, and logically the higher DL the lower ROA. In addition, the COVID-19 pandemic (DU) negatively influenced the financial performance of Jordanian banks at the significance level of 5%. These results are in line with previous studies (Abodunrin *et al.*, 2020; Açıkgöz & Günay, 2020; Bobade & Alex, 2020; Demirguc-Kunt *et al.*, 2021; Kaddumi & Daoud, 2021; Khatatbeh *et al.*, 2020; Ozili & Arun, 2020; Sansa, 2020).

## 6. Concluding remarks

The Corona pandemic has caused high and increasing human costs around the world (Basuony, Bouaddi, Ali, & EmadEldeen, 2021; Bora & Basistha, 2021; Hatmanu & Cautisanu, 2021; Mogaji, 2020; Mugableh & Hammouri, 2022; Sharma & Sharma, 2020; Susilawati, Falefi, & Purwoko, 2020). The health protection procedures including partial and total closure which are necessary to overcome this crisis have negatively affected economic activity in Jordan and all countries around the world. As a result, the profitability of banks declined. This paper examines the impact of the procedures followed by the Central Bank of Jordan during the COVID-19 pandemic on the financial performance of Jordanian banks listed on the Amman Stock Exchange over the period (2019Q1–2021Q3). The results from the panel fixed effect model revealed a negative relationship between the required reserve ratio and the return on total assets. In addition, there is an inverse relationship between DL and the ROA. However, this paper recommends the Central bank of Jordan following a precautionary policy to encounter systematic risks that cannot be eliminated by using diversification.

## References

- Abodunrin, O., Oloye, G., & Adesola, B. (2020). Coronavirus pandemic and its implication on global economy. *International Journal of Arts, Languages and Business Studies*, 4, 13–23.
- Açıkgöz, O., & Günay, A. (2020). The early impact of the Covid-19 pandemic on the global and Turkish economy. *Turkish Journal of Medical Sciences*, 50(SI-1), 520–526.
- Arab Monetary Fund (2022). Available from: [https://www.amf.org.ae/en/system/404?destination=/ar&\\_exception\\_statuscode=404](https://www.amf.org.ae/en/system/404?destination=/ar&_exception_statuscode=404) (accessed April 2022).
- Basuony, M. A. K., Bouaddi, M., Ali, H., & EmadEldeen, R. (2021). The effect of covid-19 pandemic on global stock markets: Return, volatility, and bad state probability dynamics. *Journal of Public Affairs*, 22(S1), 1–18, e2761.
- Bobade, P., & Alex, A. (2020). Study the effect of covid-19 in Indian banking sector. In *International research e-conference on corporate social responsibility and sustainable development*.
- Bora, D., & Basistha, D. (2021). The outbreak of covid-19 pandemic and its impact on stock market volatility: Evidence from a worst-affected economy. *Journal of Public Affairs*, 21(e2623), 1–10.
- Breusch, T. S., & Pagan, A. R. (1980). The Lagrange multiplier test and its application to model specification in econometrics. *The Review of Economic Studies*, 47(1), 239–253.
- Central Bank of Jordan (2022). Available from: <https://www.cbj.gov.jo/> (accessed April 2022).
- Demirguc-Kunt, A., Pedraza, A., & Ruiz-Ortega, C. (2021). Banking sector performance during the covid-19 crisis. *Journal of Banking and Finance*, 133, 1–22.
- Financial Stability Report, Central Bank of Jordan (2020). Available from: <https://www.cbj.gov.jo/EchoBusv3.0/SystemAssets/PDFs/2020/JFSR-A-2020%2010-10-2021%20V1.7%20final%20.pdf> (accessed April 2022).
- Hatmanu, M., & Cautisanu, C. (2021). The impact of covid-19 pandemic on stock market: Evidence from Romania. *International Journal of Environmental Research and Public Health*, 18, 1–22.
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 46(6), 1251–1271.

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- Im, K. S., Pesaran, M. H., & Shin, Y. (1997). *Testing for unit roots in heterogeneous panels*. Mimeo, Department of Applied Economics, University of Cambridge.
- International Monetary Fund (2022). Available from: <https://www.imf.org/en/Home> (accessed November 2022).
- Kaddumi, T. A., & Daoud, R. M. M. (2021). The impact of the corona pandemic (covid-19) on the Jordanian commercial banking sector. *Academy of Strategic Management Journal*, 20(6), 1–11.
- Kao, C. (1999). Spurious regression and residual-based tests for co-integration in panel data. *Journal of Econometrics*, 90, 1–44.
- Khatatbeh, I. N., Bani Hani, M. B., & Abu-Alfoul, M. N. (2020). The impact of covid-19 pandemic on global stock markets: An event study. *International Journal of Economics and Business Administration*, VIII(4), 505–514.
- Mogaji, E. (2020). Financial vulnerability during a pandemic: Insights for coronavirus disease (Covid-19). *Research Agenda Working Paper*, 2020(5), 57–63.
- Mugableh, M. I., & Hammouri, M. A. (2022). Exploring the impact of financial technology on the economic growth in Jordan. *Webology*, 19(3), 286–293.
- Ozili, P., & Arun, T. (2020). *Spillover of COVID-19: Impact on the global economy*. MPRA Paper 99317. Germany: University Library of Munich.
- Sansa, N. A. (2020). The impact of the COVID-19 on the financial markets: Evidence from China and USA. *Electronic Research Journal of Social Sciences and Humanities*, 2, 1–26.
- Sharma, B., & Sharma, B. (2020). Blue economy: Impact of corona pandemic. *International Journal of Management*, 11(9), 717–728.
- Susilawati, Falefi, R., & Purwoko, A. (2020). Impact of COVID-19's pandemic on the economy of Indonesia. *Budapest International Journal Research and Critics Institute-Journal (BIRIC-Journal)*, 3(2), 1147–1156.

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